DOCUMENT RESUME

ED 163 199 CE 018 485

AUTHOR	Cooper, Richard V. L.
TITLE	Youth Labor Markets and the Military. The Rand Paper Series.
INSTITUTION	Rand Corp., Santa Monica, Calif.
SPONS AGENCY	Department of Labor, Washington, D.C.
REPORT NO	P-5927
PUB DATE	Mar 78
CONTRACT	B-9-M-8-0653
NOTE	52p.; Paper presented at the Policy Conference on Employment Statistics and Youth, University of California (Los Angeles, February 11-12, 1978)
EDRS PRICE	MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS	Blacks; Career Change; Data Collection; Decision Making; Demography; Employment Patterns; Employment Problems; *Employment Statistics; Enlisted Personnel; Females; Human Capital; Information Needs; Job Training; *Labor Market; *Manpower Needs; Manpower Utilization; Measurement; Military Service; *Military Training; Minority Groups; Occupational Mobility; Skill Development; Statistical Studies; *Transfer of Training; Unemployment; Work Experience; *Youth Employment; Youth Problems
IDENTIFIERS	*Military Civilian Relationship

ABSTRACT

This paper argues that the military plays an extremely important role in youth labor markets by providing not only jobs but also experience and training which can later be transferred to the civilian labor market. Following the introduction, section II examines the military's demand for labor; its fluctuations due to secular, cyclical, and seasonal variables; and its impact on the youth labor market. The military is an important factor in the youth labor market, and it is becoming an important one also in the minorities and women's labor markets. Section III considers the supply side effects of military service by discussing the flow between the military and civilian youth labor markets, the variables that affect the decisions of enlisting or leaving the military, and the human capital accumulation gained through military work experience that can then be used in the civilian manpower pool. Sections IV and V explore the military's impact on youth unemployment, focusing on demographic trends over time and the black unemployment problem. In section VI it is concluded that the paper's findings have several implications for the measurement and collection of data on the youth labor market, specifically in the areas of (1) youth unemployment rates which should include military as well as civilian labor, (2) aggregate labor force statistics which should be subdivided to reflect factors such as age and race, and (3) special labor force data which should acknowledge an individual's military experience. (ELG)

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YOUTH LABOR MARKETS AND THE MILITARY

Richard V.L. Cooper

March 1978

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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P-5927

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YOUTH LABOR MARKETS AND THE MILITARY

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I. INTRODUCTION

Youth unemployment has become an increasingly important problem in recent years. Youth unemployment rates have averaged nearly 20 percent since 1974, and have run as high as 40 percent in some segments of the youth labor market (e.g., black teenagers). Developing and implementing solutions to the youth unemployment problem has therefore become a major concern throughout the policymaking community.

Before the causes of and possible solutions to the youth unemployment problem can be identified, however, it is both important and necessary to develop a better understanding of the youth labor market--specifically, youth labor force participation and the youth job market. Because the military plays such an important role in the youth labor market, the purpose of this paper is to develop an understanding of the effects that the military has on youth labor force participation and the youth job market.

The next section of this paper examines briefly the military's demand for labor--i.e., the military's effect on the youth job market. Section III then turns to focus on the supply side effects of the

*This paper was prepared for presentation at the Policy Conference on Employment Statistics and Youth, University of California, Los Angeles, February 11-12, 1978. The paper was prepared with the support of the U.S. Department of Labor (No. B-9-M-8-0653).

military. That is, it examines the role of the military in youth labor supply and human capital development. Sections IV and V provide illustrative examples of the impact of the military on youth unemployment, with Section IV focusing on demographic trends over time while Section V examines the black unemployment problem. Finally, Section VI examines the implications of the military's role in the youth labor market for the development of meaningful labor statistics.

II. THE MILITARY AND THE DEMAND FOR LABOR

Because the military is such a major claimant of the nation's resources, and of youth labor in particular, it is useful to begin by discussing the military's demand for labor. Whether the military enters the youth labor market through traditional market allocating mechanisms (e.g., wages and other inducements to join) or through nonmarket allocating mechanisms (e.g., the draft), the military demand for labor can have important effects on the size and composition of the youth labor force. That is, the youth labor force is shaped in significant ways by both the military's aggregate demand for labor and the more specific policies that govern the use of military personnel during their service careers.

The discussion below therefore centers on the demand for military labor. If, as is not the case, the military's demand for labor made up, say, 0.1 percent of the labor force, then the subject might be interesting, but of only academic interest. If, as is actually the case, the military makes up a significant share of the youth labor force--in the neighborhood of 10 to 20 percent--then this question of demand becomes of supreme policy importance. To the extent that labor statistics are not designed to measure the military's effect on either the size or composition of the youth labor force, these statistics are accordingly less useful for policy purposes.

Recognizing the importance of the demand side of the equation, the discussion below focuses first on the overall size of the military, and then turns to the impact of the military on the youth labor market in particular.

SIZE OF THE MILITARY

With its 4 to 5 million employees, depending on who all is counted, and its approximately $400 billion worth of land and capital in fiscal 1976, the Department of Defense is the single largest employer of resources in the nation. The military's capital stock consists not only of such obviously military items as tanks, ships, and aircraft, but also the more mundane items such as forklift trucks, buildings, desks and file drawers, and so forth.

The military's labor force includes about 2.1 million active duty uniformed personnel, about 1 million reservists (i.e., the so-called "weekend warriors"), 1 million direct-hire civilian personnel (of which about 600,000 are in white-collar occupations, while the remaining 400,000 are in blue-collar jobs), about 100,000 indirect-hire civilian personnel, 500,000 contract-hire civilian personnel, and about 250,000 nonappropriated fund employees.[1] For most all of the civilian personnel, however, there is little difference between their employer and regular civilian employers.[2] What is unique about the military,

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[1] "Direct-hire" civilians are those civilian employees maintained directly on the defense payroll. "Indirect-hires" are those foreign nationals working on U.S. installations abroad who are formally employed by the host nation, but whose costs are actually paid by the U.S. military through a reimbursement program. "Contract hires" are those individuals who, though actually employed by civilian firms, perform contract services such as aircraft maintenance, janitorial services, and kitchen duties for the military. (Contract hires do not, however, include those civilian workers engaged in the production of equipment and construction ultimately purchased by the military.) "Nonappropriated fund" civilian personnel are individuals who are paid out of funds not budgeted out of Congressionally appropriated funds. These are largely employees of military commissaries and post exchanges who are paid out of the funds generated by the sale of goods and services.

[2] There are some "dual-hatted" civilians, primarily maintenance technicians, who though employed as civilians, are also members of the reserve forces.

though, are military personnel. For the most part, the discussion in this paper will focus on active duty personnel, but it is important to recognize that the nearly 1 million reservists represent an important type of second job holding, and need to be examined accordingly.[1]

Even when we focus only on military personnel, Fig. 1 makes it clear that military personnel comprise a significant portion of the U.S. male labor force. In the immediate post-World War II period, male military personnel made up about 3.5 percent of the total male workforce, but this jumped to nearly 7.5 percent during the Korean conflict. Between the Korean and Vietnam wars, male military personnel made up between 5 and 6 percent of the U.S. male labor force. After jumping up to more than 6.5 percent during the Vietnam War, the proportion of the U.S. male workforce in the military has declined to between 3.5 and 4 percent during the past several years. Thus, although not a dominant factor in the male workforce, the military has nonetheless maintained a significant share of the labor force in its ranks during the entire post-World War II period.

THE YOUTH LABOR MARKET

Because the military maintains a "closed" personnel system, the foregoing understates in an important way the impact of the military on the youth labor market. That is, the military maintains an "up through the ranks" personnel system, with little lateral entry. This

[1] For a discussion of moonlighting and the reserves, see Bernard D. Rostker and Robert Shishko, Air Reserve Personnel Study: Volume II. The Air Reserve Forces and the Economics of Secondary Labor Market Participation, The Rand Corporation, 1973; and Robert Shishko and Bernard D. Rostker, "The Economics of Multiple Job Holding," American Economic Review, LXVI, (June 1976).

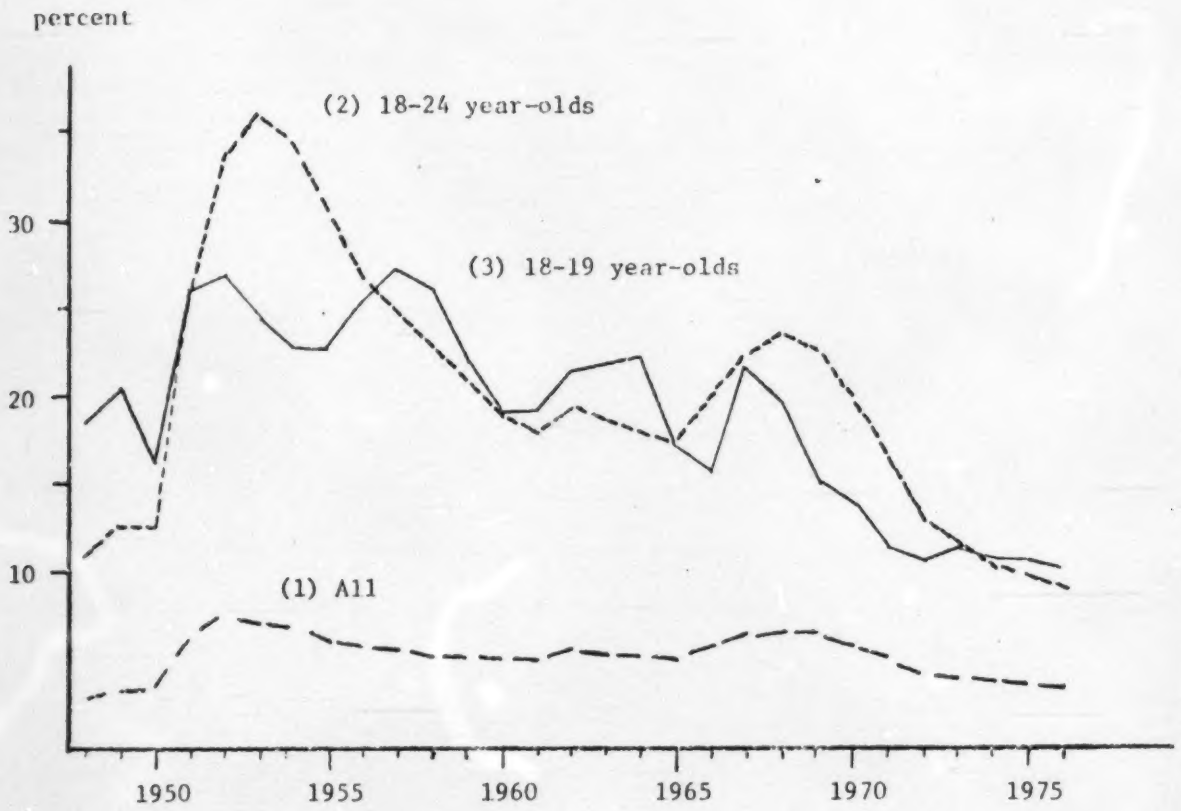

Fig. 1 -- Number of Male Military Personnel Relative to the Relevant Male Labor Force (percent): (1) All, (2) 18-24 year-olds and (3) 18-19 year-olds.

means, then, that the military's major influence on labor markets is at the entry point, typically the crop of recent college graduates for the officer corps, and the recent crop of high school graduates for the enlisted ranks (although about 35 percent of enlisted recruits are nonhigh school graduates). As a result, about 90 percent of all enlisted personnel join the military between the ages of 17 and 20 years old.[1]

The implications of the closed military personnel system for the youth labor market can be seen in Fig. 2, which shows that between the 1950s and mid 1960s, roughly half of all young men reaching military age served in the military. By the mid to late 1970s, however, declining military force sizes and a substantially larger youth cohort meant that only about 1 out of every 5 young men would serve in the military at some time during his life.[2]

A somewhat different perspective on the effect of the military's demand for labor on the youth labor market can be seen in Fig. 1 shown earlier. Specifically, Fig. 1 also shows the proportions of the 18 to 19 year-old youth labor force and 18 to 24 year-old labor force employed by the military. According to either of these measures, we see that between 20 and 35 percent of the youth labor force was employed by the military from the time of the Korean buildup through the Vietnam War. Only since the end of the Vietnam War, with the

[1] Because of the "oldest first" draft policy of the 1950s and 1960s, significant numbers of personnel then entered the military in their mid-twenties.

[2] In fact, these demographic trends, more than anything else, were responsible for the demise of the draft. That is, the growing population base not only created enormous inequities (since a small few would have to bear the "burden" of military service, while the vast majority could escape serving), but also made it possible to attract sufficient numbers of volunteers without the threat of a draft.

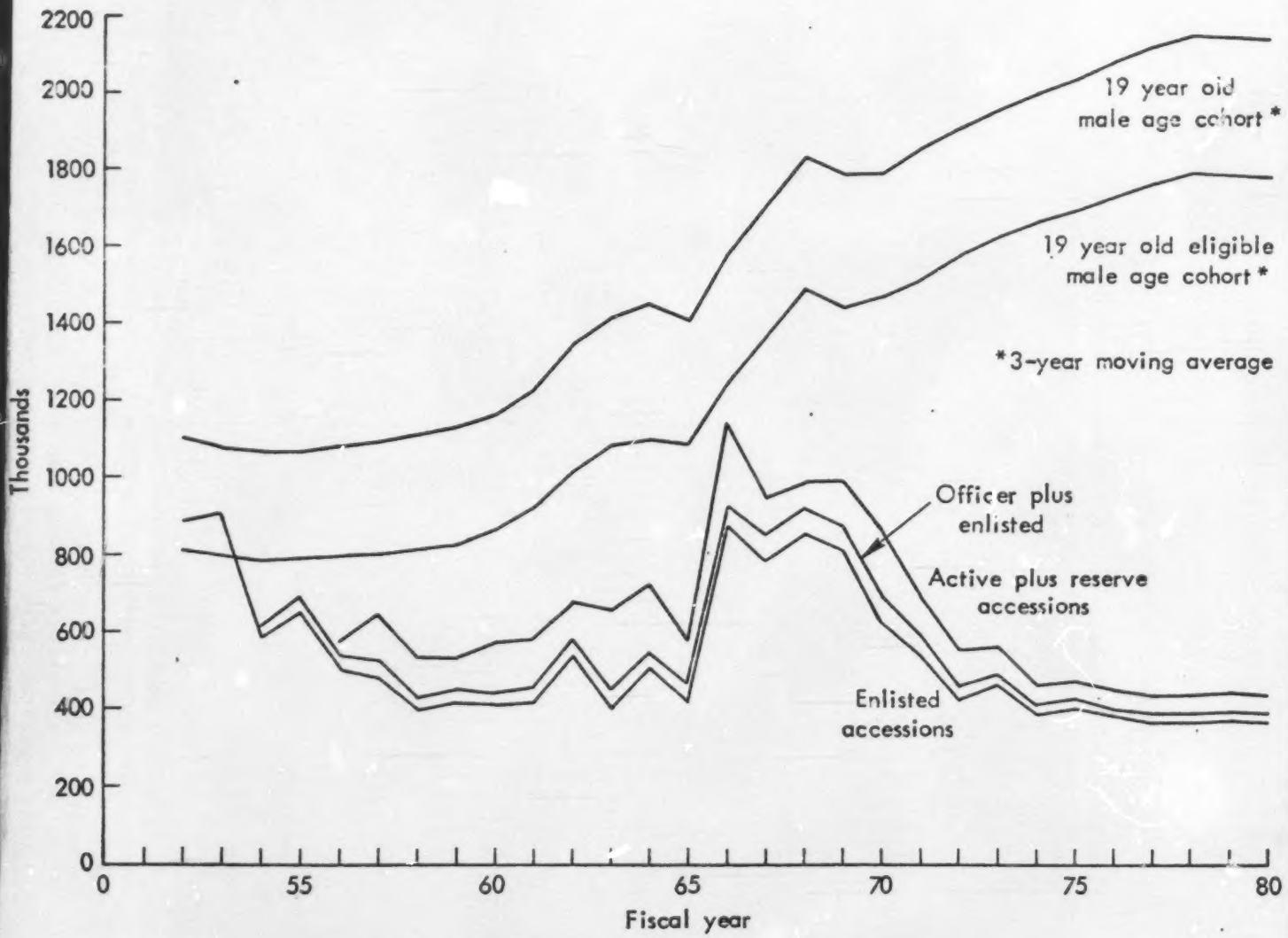

Fig. 2 — Military manpower procurement and population size

corresponding reduction in military force strengths and simultaneous increase in the youth population cohort, has the proportion of the youth cohort employed by the military dropped significantly--at its current level, about 10 percent.[1] Thus, no matter how we measure it, the military is an important, and in some cases the dominant, player in the youth labor market. Accordingly, policy changes affecting the numbers of young men entering the military--and/or the nature of their military service--can have a significant impact on the size and composition of the youth labor force.

In addition to the quantitative side of demand, there is an important qualitative aspect to the military's participation in the youth labor market. Specifically, the military uses a variety of criteria to screen potential applicants for enlistment. The individual must first take a mental aptitude test, the results of which are used to classify the individual into one of five so-called mental categories (with Mental Category I representing the top 7 percent of the population and Category V representing the bottom 10 percent). Those classified into Mental Category V are legally ineligible to serve. Others ineligible include those who fail to pass the medical examination, as well as those who fail to meet certain other criteria such as a check of police records, talks with high school counselors, and so forth. Overall, about 40 out of every 100 applicants for enlistment are rejected outright. Moreover, of the remainder, the military only allows some Mental Category IV (i.e., below average) and high school dropouts to join.

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[1] Note that these measures of the military's penetration exclude members of the reserve forces.

The end result of supply behavior (on the part of the individual) and this demand behavior (on the part of the military) can be seen in Tables 1 and 2, which compare the mental aptitude and educational attainment, respectively, of military recruits with their civilian counterparts.[1] In general, these comparisons show that the military takes in a reasonably representative sample of the nation's youth. In terms of the nation's policy toward youth and youth unemployment, Tables 1 and 2 establish the important point that the military does not draw narrowly from any one segment of society;[2] rather the military plays a significant role in most all segments of the male youth labor force.

Finally, the discussion of the military's participation in the youth labor market would not be complete without giving consideration to two special issues: the use of women in the military and the racial composition of new recruits. Although participation of women in the armed forces was limited by law to no more than 2 percent of

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[1] That is, theory tells us that supply behavior should lead to fewer (than a random sample of) very high mental aptitude individuals joining the enlisted ranks, since the enlisted ranks correspond more or less with blue-collar occupations and since these very high mental aptitude youth are more likely to attend college. On the demand side, the military limits (and in some cases excludes outright) the numbers of below average mental aptitude and nonhigh school graduates, so the bottom end of the mental aptitude and educational attainment spectra will also tend to be "under-represented." Thus, the enlisted ranks of the military would be expected to have proportionately fewer members from the very top and bottom ends of the mental aptitude spectrum or from those with post-secondary and no secondary education. (Commissioned officers, on the other hand, are drawn exclusively from the college graduate population.) Note, however, from Tables 1 and 2 that enlisted recruits are quite representative of the upper end of the noncollege civilian population--i.e., those individuals corresponding most closely with enlisted occupations.

[2] Other work by the author shows that the military draws a reasonably representative sample of American youth in other dimensions as well, such as region of origin and socioeconomic background. See Richard V.L. Cooper, Military Manpower and the All-Volunteer Force, The Rand Corporation, September 1977.

Table 1

Distribution of Enlisted Accessions and the General 18 to 21 Year-Old Male Population by Mental Category (percent)

Mental Category	Draft	AVF	US Population: Male 18-21 Year-Olds			
			All		Non-College	
			All	Non-V	All	Non-V
I	6	3	7	8	2	2
II	31	32	28	31	22	25
III	43	57	34	38	39	45
IV	19	9	21	23	24	28
V	--	--	10	--	13	--
TOTAL	100	100	100	100	100	100

Source: Office, Assistant Secretary of Defense (Manpower and Reserve Affairs)

Table 2

Educational Attainment of Enlisted Accessions
and the U.S. Male Population
(percent)

Maximum Educational Attainment	Enlisted Accessions[a]		U.S. Male Population[b]			
	Draft	AVF	All 18-22	Not in School 18-24	18-21	Blue Collar 25-44
College Grad.	3	1	8	7	1	3
Some College	13	5	26	13	12	12
High School Grad.	54	59	41	46	49	48
Some High School	26	35	19	22	27	21
Elementary	4	1	6	11	12	16

[a]Source: Office, Assistant Secretary of Defense (Manpower and Reserve Affairs)

[b]Source: U.S. Bureau of the Census and U.S. Bureau of Labor Statistics.

[c]Includes GEDs--i.e., those who have passed a general high school equivalency test, but who do not possess a high school diploma.

military personnel strengths prior to 1972, these restrictions are now largely gone (the only major remaining restriction being that women are not to be employed in "combat," though the definition of combat is less than clear cut). As a result, participation of women in the armed forces has increased significantly over the past five years, up to more than 5 percent of total military personnel today--i.e., currently there are about 110,000 women in the military. Further increases are planned, such that women in the military should number between 150,000 and 200,000 by the 1980s. Moreover, women are being used in a variety of "nontraditional" jobs. That is, whereas women were once limited mostly to certain medical and administrative occupations, today they are entering a variety of occupational areas such as truck driver, aircraft mechanic, and in some cases combat support, among other areas. Thus, the military, which once only had a minor role in the female labor market, is now taking a much more active role and will continue to do so in the future.

For a variety of reasons, mostly economic in nature, the military enjoys an even more substantial participation in the black youth labor market than it does for the youth labor market as a whole. Unlike some areas of the civilian labor market, where blacks often face inferior economic opportunities, the military does not discriminate according to race (and this has been perceived by large numbers of black youth). As a result, blacks have historically served in larger numbers relative to their population than have nonblacks. Indeed, whereas the military employs about 10 percent of today's total 18 to 24 year-old male labor force, it employs nearly 20 percent of the

black male 18 to 24 year-old labor force.[1] Increasing participation of black college graduates in the officer corps is perhaps even more impressive. Whereas blacks made up only 1 percent of all new officers in 1960, today they make up about 7 percent of the total.

Thus, not only is the military an important factor in the youth labor market in total, it is of increasing importance for certain segments of that market, especially minorities and women. Stated more simply, the above discussion has shown that the military is an important factor in the demand side of the youth labor force.

SECULAR, CYCLICAL, AND SEASONAL VARIATIONS IN THE MILITARY'S DEMAND FOR LABOR

Because the military plays such an important role in the youth labor market, variations in the military's demand for labor can have an important effect on both the size of the civilian youth labor force and on the employment and unemployment prospects for these youths. Three kinds of variations in the military's demand deserve attention: secular, cyclical, and seasonal.

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[1] The proportion of new recruits that are black has in fact increased significantly over the past 10 to 15 years, from about 8 percent in 1960 to some 16-18 percent today. The primary reason for this increase is the increasing proportion of black youth found eligible for military service. During the mid 1950s, only about 12 percent of black youth were classified into Mental Categories I-III (i.e., the upper 70 percent of the mental aptitude spectrum)--that is, the so-called "prime" manpower pool. Today, between 45 and 50 percent are so classified. As a result, blacks have increased their share of this prime manpower group from 2.9 percent in the mid 1950s to more than 7 percent today.

As can be seen in Figs. 1 and 2 shown earlier (and as will be shown later in Fig. 4), there has been a secular trend toward smaller military forces since the mid-1950s (excepting of course for the Vietnam War). Looking ahead, however, we expect military forces to stay at approximately their current levels--about 2.1 million members in the active duty forces. In other words, barring major unforeseen circumstances, such as another war, we should not expect to see major secular trends in the size of military forces, and hence in the numbers of youth employed by the military.

In the case of cyclical variations, the individual military services seem to exhibit some cyclical recruiting patterns (e.g., the Navy seems to still have a four-year recruiting cycle, which is a result of the Vietnam buildup and drawdown). For the Department of Defense as a whole, however, there is not much cyclical variation in the demand for labor, simply because the cycles of the individual Services have tended to be offset one another. Thus, cyclical variations in the demand for labor on the part of the military would not seem to pose significant problems for the youth labor force.

Finally, there are significant seasonal variations in the military's demand for labor, but this seasonal variation is a supply-side not a demand-side phenomenon. That is, the military has adapted itself to the seasonal variations in recruits seeking to join the military. Specifically, the military recruits particularly large numbers in the summer and fall months--i.e., following June high school graduation.

Again, seasonal variations in the military's demand for labor would not appear to pose significant problems for the youth labor force.[1]

In conclusion, there have been secular and cyclical fluctuations historically in the military's demand for labor, but these have been a result of declining force sizes and the Korean and Vietnam Wars. Barring another major buildup in force sizes, we would not expect much further secular or cyclical variation in the size of military forces, or in the military's demand for youth labor. Although there is in fact considerable seasonal variation in the military's demand for labor, this works with, rather than against, youth labor force participation, since the military is merely responding to the supply of new recruits entering the job market.

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[1] During the draft, there was far less seasonal variation in the demand for labor, since the military could simply draft to make up for recruiting shortfalls in the "off" recruiting months. This probably caused greater disruption to the youth labor force than the current seasonal variations which are in response to the supply of individuals entering the youth job market.

III. MILITARY SERVICE AND THE SUPPLY OF LABOR

Examination of the supply side of youth participation in the military is important for two main reasons. First, the continuity between military and civilian work experience is much greater than is sometimes perceived. That is, there are sufficient similarities between military and civilian employment that movement between the two sectors is frequently quite easy. Every year, hundreds of thousands of young men leave the civilian youth labor force to join the military, just as hundreds of thousands of young men leave the military to rejoin the civilian youth labor market. This means that modest variations in the variables affecting the desirability of military and civilian employment can have a significant effect on the flow between military and civil youth labor markets.

Second, military employment provides the individual with the opportunity to accumulate significant amounts of human capital. This human capital, in turn, can frequently be used to obtain subsequent civilian employment. As a result, the military can affect not only the size of the civilian youth labor force, but also qualitative aspects of that manpower pool, such as the skill and education mix of members of the youth labor force.

The following discussion examines these supply side aspects of military employment, focusing first on the decision to join the military, then the military work experience, and, finally, the decision to stay or leave the military.

THE DECISION TO JOIN THE MILITARY

When an individual joins the military, he or she leaves the civilian work force. Because of this, it is important to examine various aspects of the decision to join, as discussed below.

Factors Affecting the Enlistment Decision

Models of enlistment supply have been the subject of a considerable amount of reseach for at least 10 years. Among those studying the enlistment decision are economists, sociologists, and psychologists. The economists tend to formulate the enlistment decision as a model of occupational choice, where the individual presumably weighs the various advantages and disadvantages of alternative employment options and chooses the one that maximizes his or her utility. Although these are certainly not the only models used to explore the enlistment decision process, they are probably better developed than those of the other disciplines.[1]

Generally speaking, models of the enlistment decision, irrespective of their disciplinary origin, have highlighted a number of factors as critical in the individual's decision about whether or not to enlist in the military. Important among these factors are certain economic variables, including the wage rate offered by the military, the potential earnings from civilian employment, and the chances for obtaining civilian employment (as reflected by the unemployment rate). Economic factors are certainly not the only variables to affect the individual's decision to enlist, as surveys consistently show a number

[1] As various data collection techniques such as surveys have improved in recent years, so have the enlistment decision models of the other academic disciplines, especially sociology and psychology.

of other factors to be likewise as important, such as the training and job experience offered by the military, the chance to travel and "see the world," patriotism, and a host of other factors too numerous to mention.

The point is simply that the enlistment decision is shaped by many different things, so that modest changes in one or more of these can significantly affect both the number and types of individuals who join the military. To illustrate, a variety of economic supply studies conducted over the past 10 to 12 years show that if the military pays a wage approximating that earned by comparably aged and educated civilian workers, the military can attract between 15 and 20 percent of a given youth cohort into military service.[1] Moreover, most of these studies show that the elasticity of supply with respect to pay is somewhere in the neighborhood of 1.0. (Actually, estimates of the enlistment supply elasticity range from about 0.5 to 2.0, with 1.0 representing probably the best guess.) That is, a 10 percent increase in the military wage rate will yield approximately a 10 percent increase in the supply of labor to the military. Conversely, as the chances for obtaining civilian employment decrease, the supply of labor to the military also increases. Again, most studies done over the past several years show unemployment elasticities of between 0.1 and 0.4. In other words, a

[1] See, for example, Dorothy Amey, et.al., Supply Estimation of Enlistees to the Military, General Research Corporation, McLean, Virginia, June 1976; Alan E. Fechter, "The Supply of Enlisted Volunteers: Comparisons of Pre-AVF Studies with Volunteer Enlistments," in Richard V.L. Cooper (ed.), Defense Manpower Policy, The Rand Corporation, forthcoming; Stuart H. Altman and Alan E. Fechter, "The Supply of Military Personnel in the Absence of a Draft," American Economic Review, LVII (May 1967); and Harry J. Gilman, "The Supply of Volunteers to the Military Services," in Studies Prepared for the President's Commission on an All-Volunteer Armed Force, U.S. Government Printing Office, Washington, D.C., November 1970.

10 percent increase in the unemployment rate will lead to a 2 to 4 percent increase in enlistment supply.

The implication of these results is clear. Specifically, as the military makes its employment offer more (less) attractive relative to civilian employment opportunities, the military can expect to get more (fewer) individuals to join. In other words, there is not a well defined line separating military and civilian employment. This means that in studying the factors affecting the youth labor force and youth unemployment, it is important to recognize the role the military plays in trying to attract young men and women.

Military Earnings

As indicated above, previous studies have shown the importance of military pay for enlistment supply. In this regard, Fig. 3 shows that military pay for new recruits has changed significantly during the course of the past 10 years. Specifically, with the pressure of the draft, there was no "need" to pay military recruits a market wage. Indeed, as shown in Fig. 3, the wages earned by military recruits remained virtually unchanged from 1952 through 1965, and from 1965 to 1971 they received only cost-of-living pay increases. Although these wages were sufficient to attract some "true volunteers," the draft or threat of the draft provided the vast majority of new recruits.[1]

Given the demographic trends shown earlier in Fig. 2, it is clear how inequitable the selective service draft had become by the

[1] During the 1950s and 1960s, about one-third of new recruits were "true volunteers"; about one-third were "draft-motivated" volunteers (i.e., individuals who volunteered in order to avoid being drafted, but who would not have enlisted in the absence of a draft); and about one-third were drafted outright.

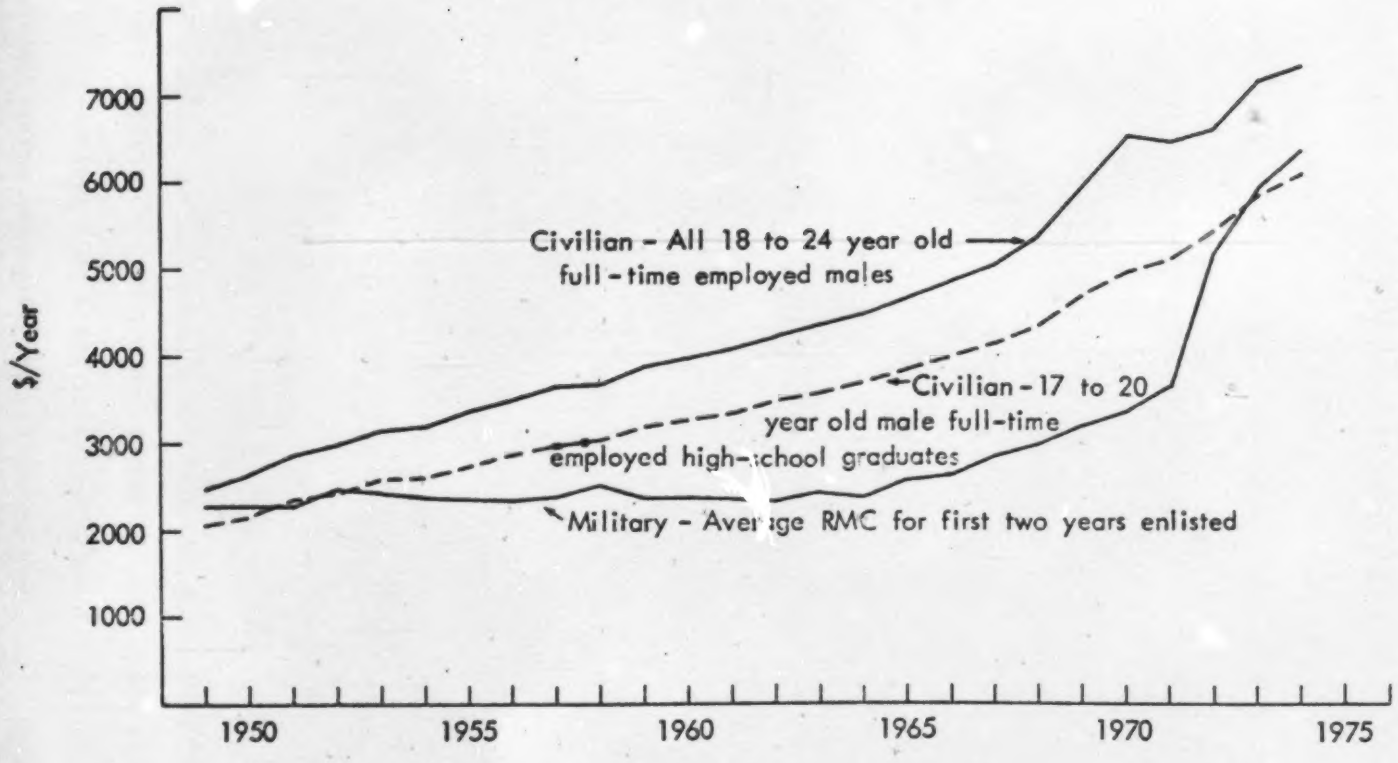

Fig. 3 — Annual Military and Civilian Wages

Source: See text.

late 1960s. That is, only about one-fifth of the male military aged population would have to bear the burden of serving, while the other four-fifths could find more lucrative civilian employment. The President's Commission on an All-Volunteer Armed Force recommended that this pay discrimination be eliminated. Congress concurred and raised recruit pay to a level earned by comparably aged and educated civilian workers (basically 17 to 20 year-old high school graduates), the results of which can be seen in Fig. 3. The effect of this pay raise was substantial. In fact, by 1975 the military had doubled the number of true volunteers joining relative to 10 years earlier.

Again, the more general point to be drawn from this is that as the military changes one or more of the aspects of the military employment offer, there will be a significant impact on the size and composition of the civilian youth labor force.

Pre-Service Employment and the Military

It is important to recognize that many individuals joining the military come not only from the ranks of the unemployed, but directly from previous civilian employment. A recent survey by Gay, for example, shows that about 20 percent of the 18 year-old enlistees in 1974 were unemployed prior to enlisting, but that about 35 percent were employed part time before enlisting and 45 percent were employed full time.[1] For those individuals employed prior to joining the military, there were obviously aspects of the military employment offer that they found superior to their then present civilian employment. In other words, the military does often compete directly

[1] Source: unpublished tabulations provided by Robert M. Gay, The Rand Corporation, 1976.

with civilian employers for young recruits. This is not altogether surprising, though, given the kinds of work that young members of the labor force often find available. That is, not only is it harder for these young members of the labor force to find work, as reflected by high youth unemployment rates, but the kinds of jobs they can obtain frequently offer less in the way of wages, challenging work, chance to accumulate human capital, and so forth, than the military can offer. Yet, it is precisely for these reasons that many young men and women seek military employment as their first or second job after leaving school.

The implication of this is clear. Although there are many young men and women who would enter the military under no circumstance, there is a sufficiently large portion of the youth labor force that, given the proper set of inducements, would (and in fact do) join the military. Thus, analysis of the youth labor market--both supply and demand--must take the military into account.

THE MILITARY WORK EXPERIENCE

Once in the military, the individual is obligated for a period of service, generally running three to six years. That is, unlike civilian employers, the military can obligate for a period of service.[1] The discussion here looks briefly at the nature of this military work experience, including the occupations that new recruits are likely to get, as well as the accumulation of human capital by military personnel.

[1] There are ways, however, for the individual to get out of his or her contractual obligation.

Occupational Mix of the Military

Although it is frequent to view the military in terms of the combat arms, it is important to recognize that the military consists of a wide range of occupations, not at all unlike what one finds in the civilian sector. In fact, Table 3 shows that the combat arms occupations make up only about 10 percent of the entire enlisted work force. The other 90 percent is made up by such diverse occupations as aircraft mechanics, medical and dental specialists, radar repairmen, radio operators, carpenters and plumbers, military police, intelligence experts, vehicle mechanics, and a host of other specific occupations. In other words, young men and women joining the military find virtually as many different types and kinds of jobs in the service as they could in the outside civilian world.

Moreover, as part of the move to the all-volunteer force, it is frequent to find young men and women joining the military to work specifically in a particular job or at a particular military installation, or with a particular military unit. Once frequent stories about the individual who was an engineer but forced to be an Army cook, or the cook who was forced to become a vehicle mechanic, and so forth, are not only not common, they are rare. The military services have made significant strides in better matching individuals' tastes and aptitudes with actual job assignments.[1]

The foregoing is not meant as an advertisement for military service, but rather as an indication of the very wide range of occupational specialties that young men and women joining the service

[1] The major problem here, however, is that young recruits are frequently unaware of what they do and do not want to do. In fact, for many it is this indecision that led to their joining the military.

Table 3

Distribution of the Force by Occupational Area: FY74[a]

Officer		Enlisted	
Occupation	Percent	Occupation	Percent
Executives	1.6	Combat Arms	12.3
Tactical Operations	40.8	Electronics	10.4
Intelligence	3.2	Comm/Intelligence	6.7
Engineer/Maintenance	15.6	Other Specialists	1.9
Scientists/Professionals	6.6	Elec/Mechanics	21.6
Medical/Dental	9.4	Medical/Dental	4.6
Administrators	12.8	Admin/Clerks	18.4
Supply	6.1	Service Supply	11.0
Other[b]	3.8	Craftsmen	4.6
		Other[b]	8.6

[a]Based on "primary" occupation designators.

[b]Training, Miscellaneous, and Other.

Source: Data were furnished by the Office, Assistant Secretary of Defense (Manpower and Reserve Affairs)

can and do engage in, and that many of these young men and women are in these occupations as a result of their own choice. The implications for the civilian youth labor force are obvious, in that individuals leaving the military bring with them a set of skills acquired during their military service. To the extent that young men and women are engaged in jobs that are found in the civil sector and that are the types of jobs in which these individuals would like to continue working, then there is the important issue of the accumulation of human capital, as discussed below.

The Accumulation of Human Capital

As indicated above, military work experience can be characterized in economic terms as the accumulation of human capital. Some of this human capital will be of a very general variety, such as the maturity that goes along with the individual's early job choices. Parts of this human capital are also very specific--in fact, they are specific entirely to the military. Examples of this would be the use of mortars, marching, drill formation, and so forth. But a substantial amount of this human capital may be of the general occupational type that is transferable to similar jobs in the civil sector.

This human capital formation takes place in several ways: through formal school training, through on-the-job training (OJT), and through actual job experience. The military maintains one of the largest educational establishments in the nation. All military recruits attend basic military training--i.e., the so-called "boot camp." In addition, about 95 percent of all new recruits attend formal technical schools. In these schools, which last from a few weeks to as much as two years (and average three to four months in length), the individual

is taught about his or her new job. These classes consist of formal lectures and training, demonstration, and actual hands-on experience.

The on-the-job training and actual job experience in the military constitute another form of human capital accumulation. In fact, given the often theoretical nature of formal technical school training, the OJT and job experience may constitute the more significant form of human capital accumulation.

In sum, the military work experience is likely to represent a significant amount of human capital formation by the individual. And this fact has not gone unrecognized by potential recruits, as military training and job experience are two of the most frequently cited reasons for joining in the first place.

THE DECISION TO STAY/LEAVE

Upon completing the enlistment tour, the individual must decide whether to remain in the military (if he is declared "eligible") or to return to the civilian labor force. The discussion focuses on this decision to stay or leave by outlining, first, the factors affecting the reenlistment decision: second, what individuals do in their post-service employment; and third, the migratory effects brought about by military service.

Factors Affecting the Reenlistment Decision

As has been the case with enlistment supply, reenlistment supply has been studied extensively during the past 10 years or so. Again, a number of different academic disciplines have been brought to bear on the issue, including economics, sociology, and psychology, among

others. The economic studies tend to show that reenlistment supply is quite sensitive to military and civilian pay opportunities. Specifically, the elasticity of supply with respect to pay has been shown to be in the neighborhood of 1.0 to 4.0, with 2.0 probably representing the best guess.[1] This means, then, that reenlistment supply is quite sensitive to military pay. That reenlistment supply should be more sensitive to pay than enlistment supply is not surprising, though, since individuals facing the reenlistment point are those who have already entered the military. That is, the initial enlistment decision screens out those individuals most opposed to military service on "taste" grounds, so that reenlistment supply is likely to be drawing from a more homogeneous manpower pool.

For a variety of technical reasons, studies have been less successful in pinpointing the responsiveness of reenlistment to unemployment rates. Nevertheless, the conventional wisdom is that reenlistment supply is in fact quite sensitive to unemployment, and a casual review of the evidence bears this point out. Clearly, however, more thorough study of this issue is warranted before definitive conclusions can be drawn.

Noneconomic factors have also been shown to play an important role in the individual's decision about whether to reenlist. A variety of studies, mainly using survey techniques, find that certain attributes of military service will either persuade or dissuade an individual from reenlisting. For example, job security is one of the most frequently cited reasons for individuals deciding to reenlist,

[1] See, for example, John H. Enns, Reenlistment Bonuses and First-Term Retention, The Rand Corporation, September 1977; and Gary R. Nelson, "Economic Analysis of First-Term Reenlistments in the Army," in Studies Prepared for the President's Commission . . ., op. cit.

while the loss of personal freedom is perhaps the dominant noneconomic reason why individuals choose to leave military service after the end of their first term. Since these are clearly not the only factors that affect the individual's reenlistment decision, the larger point is simply that reenlistment is a function of many variables, such that changes in one or more of these variables can in the long run significantly affect the numbers and types of individuals reentering the civilian youth labor force.

Post-Service Employment

As indicated earlier, military service may provide the opportunity to accumulate human capital--human capital that can be applied to subsequent civilian employment. The extent to which the military does lead to the accumulation of human capital has in fact been the subject of considerable study during the past 5 to 10 years.[1]

These studies of veterans' post-service activities have tended to focus on one or more of the following three issues: general employability of military veterans, the extent to which veterans

[1] See, for example, Eva Norrblom, An Assessment of the Available Evidence on the Returns to Military Training, The Rand Corporation, July 1977; Eva Norrblom, The Returns to Military and Civilian Training, The Rand Corporation, July 1976; Robert B. Richardson, "An Examination of the Transferability of Certain Military Skills and Experience to Civilian Occupations," unpublished Ph.D. dissertation, Cornell University, 1966; William Mason, "On the Socioeconomic Effects of Military Service," unpublished Ph.D. dissertation, University of Chicago, 1970; Adele P. Massell and Gary R. Nelson, The Estimation of Training Premiums for U.S. Military Personnel, The Rand Corporation, June 1974; and Zvi Griliches and William Mason, "Education, Income, and Ability," Journal of Political Economy, LXXX (May/June 1972).

use some of the knowledge and experience gained during military employment for their post-service civilian employment, and the earnings of veterans as compared with nonveterans. Although these studies differ substantially in their specific findings, one general theme does emerge. Specifically, military service in general does lead to the formation of human capital that can be applied to post-service civilian employment. As would be expected, though, the degree to which human capital accumulated during military service can be transfered to the civilian sector is obviously greater for individuals serving in military occupations with more direct civilian counterparts.

In general, these analyses of veterans' post-service employment activities show, first, that veterans trained in skill x during the military tend to be employed in larger numbers in skill x in the civil sector than would be implied by a mere random sampling. In other words, veterans tend to gravitate towards the kinds of occupations they had in the military. Thus, military service appears to have a potentially important effect on shaping the kinds of occupations that members of the youth labor force will enter in their post-service careers.[1] Second, individuals employed in a post-service occupation similar to their military occupation tend to show higher earnings than their veteran counterparts whose civilian occupations are not so directly related. In other words, veterans' post-service

[1] Some of the correlation between individuals' military and post-service activities is explained by the fact that individuals' pre-service and military occupations are also correlated, so to the extent that individuals' pre- and post-service occupations are correlated, so will their military and post-service occupations be.

earnings in a given occupation are higher if the veteran's military service was in a related occupational area.[1]

Part of the above-cited earnings differential may be due to a so-called "certification" effect. That is, for individuals such as minorities and high school dropouts whose economic and employment opportunities are otherwise more limited, satisfactory completion of military service may be viewed by potential employers as an indicator of greater employability. Casual examination of the evidence bears this point out, as black and high school dropout veterans both tend to see greater gains from their military service in subsequent civilian employment than do white high school graduate veterans. In general, however, the evidence is sketchy, so further study of the effects of military service on post-service earnings and employment opportunities clearly deserves more careful attention.

Finally, military service has a significant effect on post-service employment activities through the educational and training benefits offered by the Veterans Administration. The post-World War II G.I. Bill educated literally hundreds of thousands of former servicemen. Although the nature of the G.I. Bill has recently changed,[2] the military will continue to represent a potentially important source of educational benefits for America's youth population. Only recently

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[1] It is important to note that the studies are far from unanimous on this point. However, the studies that fail to find much of a relation have generally been hampered by data problems. In cases where there are sufficient data, they tend to show their positive earnings effect. See, Eva Norblomm, An Assessment of the Available Evidence . . ., op. cit.

[2] The present day GI Bill is contributory. That is, for every dollar that the service member contributes to his or her post-service education "fund," the Government contributes two dollars.

have the effects of military service on military education and training begun to be studied,[1] so all the effects are far from understood. The general conclusion to emerge from this review of post-service activities is that military service has important effects not only on the size of the youth labor force, but perhaps more important, on the composition of that labor force--especially the education and skills possessed by former servicemen reentering civilian life.

Migration

Another possible effect of military service is on migration patterns of America's youth. These effects have been relatively unstudied thus far, but we do know that military retirees, for example, tend to locate in disproportionately large numbers near military installations. This is because of the benefits provided near military installations (e.g., commissaries, free medical care, etc.). Military service may have a similar effect on one-term veterans in terms of geographic migration and location, and these effects clearly need to be studied further.

[1] See, for example, Dave M. O'Neill, Sue Goetz Ross, and John T. Warner, "The Effect of Military Training and GI Bill Training on Civilian Earnings," in Richard V.L. Cooper (ed.), Defense Manpower Policy, op. cit.

IV. THE MILITARY AND YOUTH UNEMPLOYMENT

The preceding two sections have focused on the military, work, and the youth labor market in very general terms. This section provides an illustrative example of these principles, and briefly examines the relationship between military labor demands and youth unemployment.

The basic hypothesis to be presented is that high youth unemployment is due in part to the large growth in the size of the youth labor force relative to the labor force in total. Because youth carry a limited amount of human capital (i.e., job experience) with them into the job market, the economy may have difficulty absorbing young workers into the work force. Thus, the rapidly growing size of the youth labor force relative to the labor force as a whole--a trend which has been exacerbated by declining military demands on the youth labor force--has meant higher unemployment rates for American youth, simply because the economy could not absorb all of these young workers, especially given institutional rigidities such as the minimum wage.

The discussion below first reviews the trends in the youth labor force. It then turns to develop a simple model of youth unemployment, as outlined briefly above.

SIZE OF THE YOUTH LABOR FORCE: TRENDS OVER TIME

There have been two significant trends affecting the youth labor force over time. First, because of the post-World War II baby boom, the size of the youth labor force has increased substantially relative to the size of the total labor force over the past 20 years.

Second, because today's military forces are smaller than those of the 1950s, the military is placing smaller demands on the youth labor force, not only in a relative sense, but in absolute terms as well. As a result, the civilian youth labor force has grown even more dramatically percentage wise than has the total youth labor force, as can be seen in Table 4. Thus, the combination of a growing youth population and fewer numbers of youth serving in the military has served to increase the youth share of the civilian labor force by some 70 to 80 percent over the last 20 years. For example, 18 to 19 year-olds made up 2.9 percent of the total civilian labor force in 1959, as compared with 5.0 percent in 1976. Similarly, 18 to 24 year-olds made up 10.2 percent of the total civilian work force in 1959, versus 18.6 percent in 1976.[1] Clearly, then, there have been substantial changes in the composition of the labor force, such that youth are making up an ever larger proportion.

A SIMPLE MODEL OF YOUTH UNEMPLOYMENT

For the sake of illustration, this section develops a simple single equation model of youth unemployment. Although this model is meant to be illustrative only, as a simultaneous equations system is probably more appropriate, this simple model serves to demonstrate the importance of taking into account such factors as the supply and demand of military labor when addressing questions related to the youth labor force and youth unemployment.

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[1] Ideally, we would focus on the 18 to 21 year-old male population, as this is where the military reaches its maximum penetration rate. However, data limitations precluded using this definition of "youth."

Table 4

Size of Male Youth Labor Force Relative to Total Male Labor Force

	Index					
	1954	1960	1964	1968	1972	1976
18-19 Year-Olds						
Total Labor Force	100	108	115	134	141	152
Civilian Labor Force	100	111	114	139	163	171
18-24 Year-Olds						
Total Labor Force	100	101	109	125	136	141
Civilian Labor Force	100	123	136	146	177	190

To begin with, assume that the youth unemployment rate is a function of the general level of economic activity--in particular, assume that the youth unemployment rate is a function of the overall unemployment rate.

Second, we will assume that an aggregate production function for the economy as a whole can be stated in terms of various categories of inputs used in the production process. Specifically, we will assume that in addition to such factors of production as capital, consumables, and land, that the production function can be stated in terms of different categories of labor. For simplicity, we can define two categories of labor: inexperienced (i.e., young) workers, and experienced (i.e., older) workers. In general, we would expect these various inputs to the production process to be substitutable for one another, but they would also be expected to be less than perfectly substitutable. Therefore, as the stock of inexperienced workers increases relative to the stock of experienced workers, we would expect inexperienced or young workers to find it relatively more difficult to secure civilian employment.

In a perfectly competitive economy, this would lead to a fall in the wage rate of inexperienced workers. But, institutional rigidities such as the minimum wage may preclude this lowering of youth wage rates. As a result, the economy will find it difficult to employ all the youth who have entered the labor force.

This leads us to the simple model of youth unemployment described earlier. Specifically, we can express youth unemployment as a function of (1) the overall unemployment rate, (2) the proportion of the total civilian labor force that would be classified as inexperienced or young workers, and (3) a measure of the institutional

rigidities that work against the employment of youth. For the sake of this model, these institutional rigidities will be measured as the ratio of the minimum wage to the average hourly wage for nonsupervisory production workers in nonagricultural employment.

Defining "youth" as 18 to 19 year-old males, we obtain the following regression results (standard errors are given in parentheses):

$$(1)\quad y(t) = \underset{(3.870)}{-7.782} + \underset{(0.170)}{1.864}\, u(t) + \underset{(0.315)}{1.021}\, c(t) + \underset{(0.070)}{0.156}\, w(t), \quad R^2 = 0.89$$

where $y(t)$ = unemployment rate (percent) for 18-19 year-old males in the civilian labor force in year t,

$u(t)$ = overall unemployment rate (percent) for the civilian labor force in year t,

$c(t)$ = 18-19 year-old male civilian work force in year t expressed as a percentage of the total male civilian work force,

$w(t)$ = Federal minimum wage as a percent of the average hourly wage in nonagricultural employment for nonsupervisory production workers, and

t = 1951, ..., 1976.

If, on the other hand, we define "youth" as 18 to 24 year-old males, we get the following results:

$$(2)\quad z(t) = \underset{(1.520)}{-1.323} + \underset{(0.071)}{1.684}\, u(t) + \underset{(0.036)}{0.077}\, d(t) + \underset{(0.028)}{0.023}\, w(t), \quad R^2 = 0.97,$$

where $z(t)$ = unemployment rate (percent) for 18-24 year-old males in the civilian labor force in year t,

$d(t)$ = 18-24 year-old male civilian work force in year t expressed as a percentage of the total male civilian work force,

and the other variables are as described in equation (1) above.

The regression results shown in eqs. (1) and (2) provide some interesting insights into the determinants of youth unemployment. As expected, youth unemployment rates are highly correlated with the unemployment rate for the economy as a whole. Moreover, and again as expected, this relationship is stronger (as reflected by the smaller standard error) for the 18-24 year-old "youth" population than for the 18-19 year-old "youth" population. The reason for this is simply that 20-24 year-olds are more experienced than 18-19 year-olds, and are thus more substitutable for experienced workers. Because they are more substitutable, the employment (and unemployment) experience of 20-24 year-olds can be expected to mirror more closely the employment experience of the civilian labor force as a whole.

Second, both equations show that youth's share of the total civilian labor force is an important determinant of youth unemployment rates in the civilian sector. Specifically, these equations show that the rapidly increasing size of the civilian youth labor force (which, in turn, is due to both the increasing size of the total youth labor force and the constant or decreasing number of youth employed by the military) has been responsible for at least some of the secular increase over time in civilian youth unemployment rates. Again, the relationship is stronger for the 18-19 year-old "youth" population than for the 18-24 year-old "youth" population (for the same reasons as described above).

Finally, the increase in the minimum wage over time relative to wages for more experienced workers has likewise served to drive up youth unemployment rates. That is, the minimum wage has helped keep

the market from adjusting to the "excess supply" of youth labor. Given that a smaller proportion of the 20-24 year-old population would be expected to have a "market clearing" wage below the minimum wage, the minimum wage variable behaves as expected, since it does less well in equation (2) than in equation (1)--i.e., it does less well for 18-24 year-olds than for 18-19 year-olds.

Together, then, these three factors--i.e., the inceasing size of the youth population, the constant or decreasing numbers of youth employed in the military, and institutional barriers such as the minimum wage--help to explain why youth unemployment rates have increased over time relative to unemployment rates for the general economy.

Moreover, to the extent that this simple model is reasonably accurate, the decline in the youth population that takes place in the 1980s (and the corresponding increase in the older population) means that youth unemployment rates would be expected to decrease somewhat in the 1980s, other things equal. This is not to say that youth unemployment will cease to be a problem, but rather that demographic trends will finally begin to work in favor of reducing youth unemployment rates in the future, especially if military force sizes remain at or near their present levels. Indeed, equation (1) indicates that civilan youth unemployment rates ought to fall by 10 percent or so by the mid 1980s.

Although this model was developed only for the sake of illustration, it demonstrates how important demographic trends can be, and specifically how important the military's demand for labor is on the size and employability of the youth labor force.

V. BLACK UNEMPLOYMENT: A SPECIAL CASE

One of the most troublesome aspects of the recent economic recession has been the particularly high unemployment rates experienced by black youth. Whereas black youths in the civilian labor force had historically (1950-1970) experienced unemployment rates about 8 percentage points higher than their nonblack counterparts (about 20 percent for blacks as opposed to about 12 percent for nonblacks), unemployment rates for blacks jumped to about twice those of nonblacks during the height of the economic recession--35 percent for black 16 to 19 year-old males, versus about 18 percent for nonblacks. Unemployment problems among black youth have accordingly become a very serious and well-recognized problem.

Some insight into this black youth unemployment problem can be gained by examining the role of the military in the youth labor market. To begin with, recall that the military classifies prospective recruits into one of five so-called mental categories, with Categories I-III representing the upper 70 percent of the mental aptitude spectrum (i.e., the "prime" manpower pool). Using results developed elsewhere by the author [1], columns (1) and (3) of Table 5 show the distributions of the black and nonblack 18 year-old populations, respectively, according to Mental Category. Consistent with past studies, these distributions show that blacks as a whole do not score as well on the mental aptitude tests administered by the military as do nonblacks.

[1] See Richard V.L. Cooper, Military Manpower and the All-Volunteer Force, op. cit.

Table 5

Distribution of the Black and Nonblack
18 Year-Old Manpower Pools According
to Mental Category: 1974
(percent)

Mental Category	Percentile	Black Population		Nonblack Population	
		Total	Civilian	Total	Civilian
		(1)	(2)	(3)	(4)
I-III	31-100	45	39	84	83
IV	11-30	32	34	12	12
V	0-10	23	27	4	5

Table 6

Distribution of the Black and Nonblack
18 Year-Old Manpower Pools According
to Mental Category: 1974
(000s)

Mental Category	Percentile	Black Population			Nonblack Population		
		Total	Military	Civilian	Total	Military	Civilian
		(1)	(2)	(3)	(4)	(5)	(6)
I-III	31-100	115	31	84	1267	139	1128
IV	11-30	81	6	75	186	11	175
V	0-10	59	0	59	62	0	62

For example, column (1) shows that about 45 percent of blacks are classified into Mental Categories I-III, while about 84 percent of nonblacks are so classified. Conversely, 23 percent of blacks are classified as Mental Category V (and, hence, legally ineligible for military service), as opposed to only 4 percent of nonblacks.

Taking the 18 year-old male population in 1974, columns (1) and (4) of Table 6 show the numerical distributions of black and nonblack males, respectively, according to Mental Category. For example, there were about 115,000 black male Category I-III 18 year-olds in 1974, versus about 1,267,000 nonblack male Category I-III 18 year-olds in the overall population. But, about 31,000 black and 189,000 nonblack Category I-III 18 year-olds were in the military in 1974, as shown in columns (2) and (5) of Table 6. The numerical distribution of the civilian 18 year-old black and nonblack populations according to Mental Category can then be found by subtracting column (2) from (1) and column (5) from (4), respectively. The results are shown in columns (3) and (6). The conversion of the numerical distributions of civilian 18 year-olds according to Mental Category to percentage distributions are shown in columns (2) and (4) of Table 5.

Three important findings emerge from Tables 5 and 6. First, and as is generally well recognized, blacks do not score as well on mental aptitude tests as nonblacks. Second, though perhaps less well recognized, Table 6 shows that the military has been very successful in attracting the most able black youth, insofar as the participation rate in the military for Category I-III blacks is high by most any standard. This is not very surprising, of course, given that black youth often face inferior employment opportunities in the civil sector, whereas the military does not discriminate according to race.

The combination of the above two findings gives rise to the third: namely, that black youth in the civilian labor pool fall disproportionately in Mental Categories IV and V. To the extent that employment opportunities are correlated with measured mental aptitude, columns (2) and (4) of Table 5 help to explain why black unemployment rates are so much larger than those for whites. Moreover, because the military is able to draw such a large fraction of the Mental Category I-III black population into service, the youth unemployment rates for black civilians are accordingly larger.

VI. CONCLUSIONS

Two important conclusions emerge from the preceding discussion. First, the military's demand for labor is an important determinant of both the size and composition of the youth labor force. This means that changes in the military's demand for labor can have significant effects on the youth labor market, including employment prospects, the size of the youth labor force, and a host of other variables affecting American youth. Second, the military also exerts a major influence on the supply-side behavior of the youth labor force. Specifically, American youth have demonstrated a considerable degree of mobility between the military and civil sectors. This includes both the initial decision about joining the military and later decisions about whether to remain in or leave the military. Perhaps the most significant from the point of view of the civilian labor market is the human capital that former Service members bring back with them when they rejoin the civilian work force.

The implications of these findings for the measurement and collection of youth labor market information are several fold. Specifically, these implications concern (1) the measurement of youth unemployment rates, (2) the collection of aggregate labor force statistics, and (3) the collection of special labor force data.

For both theoretical and empirical reasons, the results from the preceding discussion imply that youth unemployment rates ought to be defined in terms of the total labor force, not just in terms of the civilian labor force. On theoretical grounds, since military service

is entirely voluntary, [1] the military competes as only one among many potential employers for the nation's youth. To be sure, there are unique aspects of military service, just as there are unique aspects of some types of civilian employment. But from the viewpoint of measuring youth labor force participation and employment, the foregoing means that the military is theoretically little different from other employers of youth. This is borne out empirically as well. Not only is military service apparently seen as an attractive employment option by a significant portion of the youth labor force--between 10 and 20 percent of young men enter the military--but members of the youth labor force have in fact demonstrated considerable mobility between the military and civil labor markets.[2] In other words, military service is an integral part of the employment pattern for a sizeable portion of the youth labor force.

In terms of measuring unemployment rates, the above discussion suggests that those employed in the military ought to be counted as part of the labor force. Because those serving in the military are employed, historical measurements based on the civilian labor force alone have therefore overestimated "true" unemployment rates, and in

[1] On theoretical grounds, a case can be made (though perhaps not too persuasively) for excluding the military during periods of the draft. That is, since not all military participation is voluntary during a draft, military may be a more separate and distinct entity from civilian employment when a draft is present.

[2] If, on the other hand, the military was empirically a distinct entity from the civilian sector, as in fact has been the case in some countries, then a case could be made for excluding the military from labor force measures on empirical grounds. That is, if there is little flow between the military and civil employment markets, then the inclusion or exclusion of the military from labor force measures is both less interesting and less important.

some cases substantially.[1] For example, the current procedure overestimates overall unemployment rates among black youth by some 20 to 25 percent--as opposed to a 10 percent or so overestimation of white youth unemployment rates--simply because such a large fraction of the black youth labor force is employed in the military.[2] Although this does not dismiss the problem of black unemployment, it does suggest that the problem is not quite as severe as a casual review of unemployment rates for black youth in the civilian labor force would seem to imply. In general, developing more appropriate measures of youth unemployment--i.e., measuring youth unemployment in terms of the total labor force--can lead to more informed policy decisions.

With respect to aggregate labor statistics, the foregoing should not be viewed to mean much change in the ways that data are collected or maintained. That is, although it seems desirable to define unemployment rates relative to the total labor force, it is useful to maintain separate statistics on the civilian labor force and on the total labor force, as is now the case. This is simply an example of a more general principle. Specifically, labor force statistics ought to be maintained for major segments of the youth labor market--e.g., according to age, race, geographic location, and so forth. That is, collecting and maintaining labor statistics according to these major segments of the youth labor force helps to pinpoint and spot certain problem areas. Because the military is in fact an important segment

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[1] That is, the current procedure omits those employed in the military from the denominator of the ratio used to calculate the unemployment rate.

[2] Moreover, because the military tends to select the "cream of the crop" from among black youth, those not serving in the military would be expected to be the ones that would have the most difficulty securing employment, from either military or civilian employers.

of the youth labor force, this suggests that the current procedure of maintaining separate labor force statistics for military and civilian youth employment is a valid one.

Finally, although the preceding discussion does not suggest much change in the way aggregate statistics are collected or maintained, it does suggest that special data collection methods need to take greater recognition of military service. For example, data collection methods such as the National Longitudinal Survey, the Current Population Survey, the Census, and so forth, should place greater emphasis on collecting relevant information about the individual's military participation. This would include age of entry into the military, length of service, rank, occupational specialty, training received (both formal and on-the-job), etc. That is, it is clear from the limited knowledge available that military experience and training can have an important effect on individuals' subsequent employment and earnings prospects. To the extent that current data sources do not properly measure this training and experience, then we are failing to recognize the full effects of alternative policy options. Therefore, greater attention needs to be directed toward collecting relevant information about the individual's military experience, in conjunction with his or her civilian experience.

In general, this calls for greater coordination of data collection efforts between military and civilian authorities. Such efforts are warranted, not only because youth labor markets are affected by both military and civilian work experience, but also because the controlled nature of the military environment affords the opportunity to examine certain youth productivity and behavioral parameters that can be observed only with great difficulty in the civilian sector. For

example, recent surveys of military personnel have provided valuable information about the relationships among individuals' attitudes, their earnings prospects, and their actual employment decisions.[1] This was made possible largely by the fact that the military was able to first survey these individuals, then track and compare these individuals' actual decisions with what they said they had intended. Combined with the vast amounts of information available on the military personnel files, these types of surveys can be used to provide valuable information about individuals' attitudes, supply behavior, and productivity--not only in the military, but in the civilian labor market as well.

Areas where such cooperation and coordination between military and civilian data collection efforts could prove to be particularly profitable include certain ongoing and special civilian collection efforts, including future National Longitudinal Surveys, the Current Population Survey, and the Census. Alternatively, certain regular and special data collection efforts in the military could provide valuable information to civilian researchers and policy makers. Examples include the annual survey of new recruits at armed forces entrance and examination stations, post-service surveys conducted by

[1] A number of recent data collection efforts illustrate the point. For example, to estimate the response to the military's health professionals scholarship program, a survey was administered to a stratified random sample of medical students across the country. The survey essentially asked these students to trace out their supply curve, not only with respect to values of the stipend, but also to such other variables as tour commitment, residency policy, and so forth. The results have been impressive, as prediction errors over the past three years have been in the neighborhood of 5 percent. In another effort, individuals' productivity on the job was measured. Combined with the attitudinal information also collected and the information available from personnel files, valuable insights have been gained about the determinants of productivity, attitudes, and supply behavior.

the military, attitudes of young women toward military service, and so forth.

In sum, this paper has argued that the military is a most important factor in youth labor markets. On the one hand, the military is a major source of jobs for American youth, while on the other, it is clear that military experience and training can play a signifiant role in the issues and problems of civilian labor market behavior.